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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 10/542,432 | 11/16/2005 | Christopher Raymond Jones | 05436/HG | 2765 |

1933 7590 12/12/2008

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| EXAMINER | |
|---|---|
| GODENSCHWAGER, PETER F | |

| ART UNIT | PAPER NUMBER |
|---|---|
| 1796 | |

| MAIL DATE | DELIVERY MODE |
|---|---|
| 12/12/2008 | PAPER |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/542,432 | JONES, CHRISTOPHER RAYMOND | |
| | Examiner | Art Unit | |
| | PETER F. GODENSCHWAGER | 1796 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *23 September 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *20-38* is/are pending in the application.

4a) Of the above claim(s) *33,34,36 and 37* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *20-32,35 and 38* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *7/14/2005, 9/21/2005*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

## DETAILED ACTION

### *Election/Restrictions*

Applicant's election of Group II, claims 20-32, 35, and 38 in the reply filed on September 23, 2008 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Claims 33, 34, 36, and 37 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on September 23, 2008.

### *Claim Rejections - 35 USC § 112*

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 24 and 25 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 24 recites dependence from canceled claim 4. For purposes of further examination, claim 24 is being interpreted as depending from claim 23.

Claim 25 recites dependence from canceled claim 5. For purposes of further examination, claim 25 is being interpreted as depending from claim 24.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 20-23, 26, 27, and 32 are rejected under 35 U.S.C. 102(b) as being anticipated by Fidoe et al. (Intl. Pub. No. WO 02/08127).

Regarding Claims 20-23: Fidoe et al. teaches a method of treating water containing metal sulphide scale (an inorganic solid-water mixture/slurry) comprising adding to the mixture a tetrakis (hydroxymethyl) phosphonium sulphate, chloride, or phosphate (Pg. 4, Lns. 5-15 and Pg. 18, Lns. 1-10). Fidoe et al. further teaches adding a chelant/dispersant such as an amino phosphate of formula: $R^1R^2NCH_2PO_3X_2$ (a phosphnated compound containing at least one tertiary nitrogen atom) (Pg. 4, Lns. 1-5, 25-30).

Regarding Claims 26 and 27: As dispersants (b(i)) and (b(ii)) are recited in the alternative in claim 20, the homopolymer of acrylic acid (dispersant (b(ii))) is not being interpreted as a required component.

Regarding Claim 32: Fidoe et al. further teaches the method where the THP and chelant/dispersant are added with bentonite (clay) (Pg. 8, Lns. 5-10) which would inherently form a clay/THP/dispersant slurry upon initial contact with water.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 24, 25, and 28-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fidoe et al. (Intl. Pub. No. WO 02/08127).

Fidoe et al. teaches the method of claim 20 as set forth above.

Regarding Claims 24 and 25: Fidoe et al. further teaches that the amino phosphate $R^1R^2NCH_2PO_3X_2$ may include compounds where $R^1$ and $R^2$ are $CH_2PO_3X_2$ and X is a hydrogen or an alkali metal such as sodium (Pg. 4, Ln. 25 to Pg. 5, Ln. 17).

Fidoe et al. does not explicitly teach the tetrasodium salt of nitrilo-tris(methylene phosphonate). However, at the time of the invention, a person of ordinary skill in the art would have found it obvious to use the tetrasodium salt of nitrilo-tris(methylene phosphonate) in the method of Fidoe et al. and would have been motivated to do so because Fidoe et al. teaches that the amino phosphate $R^1R^2NCH_2PO_3X_2$ may include compounds where $R^1$ and $R^2$ are $CH_2PO_3X_2$ and X is a hydrogen or an alkali metal such as sodium, and therefore, one of ordinary skill in the

art would have a reasonable expectation of success that such specific compounds would be effective in the method of Fidoe et al.

Regarding Claim 28: Fidoe et al. further teaches the proportion of THP to chelant/dispersant to be from 1:2 to 2:1 (Pg. 5, Lns. 19-22).

Fidoe et al. do not teach the proportion of THP to chelant/dispersant to be about 2:1. However, it is common practice in the art to optimize the relatvie amounts of result effective variables such as the proportion of THP to chelant/dispersant (see MPEP 2144.05). At the time of the invention, a person of ordinary skill in the art would have found it obvious to optimize the proportion of THP to chelant/dispersant taught by Fidoe et al. and would have been motivated to do so in order to achieve the most effective dissolution and dispersion of iron sulphide deposits.

Regarding Claim 29 and 30: Fidoe et al. further teaches the method where the concentration of THP and chelant/dispersant added to the slurry to be from 1ppm up to saturation (Pg. 7, Lns. 15-25).

Fidoe et al. does not teach the method where the concentration is from 10ppm to 1000ppm or about 750ppm. However, it is common practice in the art to optimize the relative amounts of result effective variables such as the concentration of THP and chelant/dispersant (see MPEP 2144.05). At the time of the invention, a person of ordinary skill in the art would have found it obvious to optimize the amount of THP and chelant/dispersant added in the method of Fidoe et al. and would have been motivated to do so because Fidoe et al. teaches that the amount of THP and chelant/dispersant will vary depending on the requirements of the system (Pg. 7, Lns. 15-25).

Claim 31 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fidoe et al. (Intl. Pub. No. WO 02/08127) in view of Case (US Pat. No. 2,877,848).

Fidoe et al. teaches the method of claim 20 as set forth above.

Fidoe et al. does not teach the method where the slurry comprises a calcium carbonate-based slurry. However, Case teaches a method of treating a water system to remove deposits such as calcium carbonate (a slurry) (2:15-30, 4:55-70). Fidoe et al. and Case are analogous art because they are concerned with the same field of endeavor, namely the treatment of deposits in oil well water systems. At the time of the invention, a person of ordinary skill in the art would have found it obvious to treat calcium carbonate as taught by Case with the method of Fidoe et al. and would have been motivated to do so because Case teaches that calcium carbonate and iron sulfide are both common precipitated solids in oil wells that can be similarly treated (2:15-30, 7:60-70).

Claim 35 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fidoe et al. (Intl. Pub. No. WO 02/08127).

Fidoe et al. teaches a method of treating water containing metal sulphide scale (an inorganic solid-water mixture/slurry) comprising adding to the mixture a tetrakis (hydroxymethyl) phosphonium sulphate, chloride, or phosphate (Pg. 4, Lns. 5-15 and Pg. 18, Lns. 1-10). Fidoe et al. further teaches adding a chelant/dispersant such as an amino phosphate of formula: $R^1R^2NCH_2PO_3X_2$ (a phosphnated compound containing at least one tertiary nitrogen atom) (Pg. 4, Lns. 1-5, 25-30).

Fidoe et al. does not explicitly teach the tetrasodium salt of nitrilo-tris(methylene phosphonate). However, at the time of the invention, a person of ordinary skill in the art would have found it obvious to use the tetrasodium salt of nitrilo-tris(methylene phosphonate) in the method of Fidoe et al. and would have been motivated to do so because Fidoe et al. teaches that the amino phosphate $R^1R^2NCH_2PO_3X_2$ may include compounds where $R^1$ and $R^2$ are $CH_2PO_3X_2$ and X is a hydrogen or an alkali metal such as sodium, and therefore, one of ordinary skill in the art would have a reasonable expectation of success that such specific compounds would be effective in the method of Fidoe et al.

Claim 38 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fidoe et al. (Intl. Pub. No. WO 02/08127) in view of Lansford et al. (US Pat. No. 3,832,302).

Fidoe et al. teaches a method of treating water containing metal sulphide scale (an inorganic solid-water mixture/slurry) comprising adding to the mixture a tetrakis (hydroxymethyl) phosphonium sulphate, chloride, or phosphate (Pg. 4, Lns. 5-15 and Pg. 18, Lns. 1-10). Fidoe et al. further teaches the addition of a chelant (Pg. 4, Lns. 1-5), and polymeric scale inhibitors (Pg. 14, Lns. 19-30).

Fidoe et al. does not teach the addition of a homopolymer of acrylic acid with a molecular weight of 2,000-5,000. However, Lansford et al. teaches the addition of a homopolymer of acrylic acid with a molecular weight of 1,000-10,000 (2:34-40, 60-65 and 3:20-30), over lapping with sufficient specificity the claimed range of 2,000-5,000 to water in oil wells (6:20-25). Fidoe et al. and Lansford et al. are analogous art because they are concerned with the same field of endeavor, namely the prevention of scale/deposits in water in oil wells. At

the time of the invention, a person of ordinary skill in the art would have found it obvious to use the acrylic acid polymer of Lansford et al. in the method of Fidoe et al. and would have been motivated to do so because Lansford et al. teaches that it is particularly suitable for preventing scale formation in oil wells (6:20-25).

***Double Patenting***

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 20-30 and 35 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-29 of U.S. Patent No. 6,926,836 in view of Fidoe et al. (Intl. Pub. No. WO 02/08127). Although the conflicting claims are not identical, they are not patentably distinct from each other because both claim a method of adding to a slurry/scale deposit in water the same THP salt and a tertiary nitrogen phosphate.

U.S. Patent No. 6,926,836 does not specifically claim the sodium salt of nitrilo-tris(methylene phosphonate). However, Fidoe et al. teaches a method of treating water containing metal sulphide scale (an inorganic solid-water mixture/slurry) comprising adding to the mixture a tetrakis (hydroxymethyl) phosphonium sulphate, chloride, or phosphate, and Fidoe et al. teaches that the amino phosphate $R^1R^2NCH_2PO_3X_2$ may include compounds where $R^1$ and $R^2$ are $CH_2PO_3X_2$ and X is a hydrogen or an alkali metal such as sodium (Pg. 4, Lns. 5-15 and Pg. 18, Lns. 1-10). U.S. Patent No. 6,926,836 and Fidoe et al. are analogous art because they are concerned with the same field of endeavor, namely metal sulfide scale treatments. At the time of the invention, a person of ordinary skill in the art would have found it obvious to use the amino phosphate of Fidoe et al. in the method of U.S. Patent No. 6,926,836 and would have been motivated to do so because Fidoe et al. teaches that THP salts are highly effective at killing sulphate reducing bacterial in wells (Pg. 2, Lns 5-20).

***Correspondence***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to PETER F. GODENSCHWAGER whose telephone number is (571)270-3302. The examiner can normally be reached on Monday-Friday 7:30-5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Eashoo can be reached on (571) 272-1197. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Mark Eashoo/
Supervisory Patent Examiner, Art Unit 1796

/P. F. G./
Examiner, Art Unit 1796
December 2, 2008